M E M O R A N D U M

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SUBJECT: Operational Position Statement for the Week of Apr 17 – Apr 23, 2012

The U.S. Army Corps of Engineers (USACE) is responsible for managing Lake Okeechobee water levels and makes operational decisions about whether to retain water or release water based on their regulation schedule release guidance. The USACE makes this decision taking into account the best available science and data provided by its staff and a variety of partners, which includes the South Florida Water Management District (SFWMD).

The SFWMD team has discussed the system wide environmental conditions, the water supply conditions, and has evaluated the overall status of the water management system. Detailed reports are available at the SFWMD's Operational Planning internet page.

Recommendation to the USACE

Lake Okeechobee remains in the Beneficial Use sub-band and SFWMD staff continue to follow the Lake Okeechobee Adaptive Protocols (AP). The AP were developed to provide guidance for both baseflow discharges and environmental water supply releases. The water supply balance achieved by following the protocol was evaluated by the Water Resources Advisory Commission and the SFWMD Governing Board, leading to board acceptance in Sep 2010.

In addition to the guidance provided by the AP, the LORS-2008 Water Control Plan describes circumstances where use of "Additional Operational Flexibility" may be considered. This provision was anticipated to be used infrequently and when the lake is above the Water Shortage Management Band, describes circumstances where a low volume pulse release may be implemented to benefit water quality within the lake and/or downstream. This recognizes that short-term high rates of release from Lake Okeechobee may be effective at breaking up algal blooms and that the District may request the Corps to initiate releases for this purpose.

At the April 12, 2012 SFWMD Governing Board meeting, direction was given to staff to continue to follow the Lake Okeechobee Adaptive Protocol release guidance and recommended that the USACE make no S-77 release to the Caloosahatchee Estuary for purposes of improving salinity conditions. At the same time, the SFWMD Governing Board also directed staff to continue conducting special water quality sampling between S-78 and S-79 and, if conditions warrant, request that the USACE initiate a short duration pulse release (up to a 3-day, 2,000 cfs pulse) to manage algal bloom conditions in the Caloosahatchee River utilizing the provisions of the Water Control Plan. At this time, sampling is ongoing and a specific recommendation regarding the timing and scope of a pulse release is under development. SFWMD staff will continue to coordinate with USACE as information is assessed and a recommendation formulated.

The SFWMD recommends that the USACE continue their standard operation to allow runoff from the C-44 basin (S-308 to S-80) to backflow to Lake Okeechobee via S-308 rather than discharge to tide via S-80.

Weather and Climate

Rainfall during the past week totaled 0.35 inches district wide (through 7am Apr 17th). For the past 30 days district average rainfall has totaled about 0.85 inches (31% of average). The SFWMD precipitation outlook for the next ten days (Apr 18-28) is above-average with moderate confidence. The 19-Apr CPC precipitation outlook for May indicates equal chances of below-normal, normal, and above-normal rainfall. For the remainder of the 2011-2012 dry season and for the beginning of the wet season, the CPC outlook shows equal chances for below-normal, normal, and above-normal rainfall.

Upper and Lower Kissimmee Basins

Stages in the most of the Kissimmee Chain of Lakes are at or within 0.3 feet of their respective flood regulation schedules or the temporary snail kite recession lines. The temporary snail kite recession lines have been implemented for Lakes Toho, East Toho, Kissimmee, Cypress and Hatchineha. Lake Kissimmee stage continues to recede due to the dry weather and S-65 environmental releases, which are made to the Kissimmee River per the Interim Operational Schedule and Release Rules for Lake Kissimmmee-Hatchineha-Cypress. Discharge at S-65 to the Kissimmee River averaged about 205 cfs for the week ending April 15th, the same as last week's 205 cfs. Discharge from the Kissimmee River to Lake Okeechobee via S-65E averaged about 50 cfs for the week ending April 15th, down from last week's 80 cfs.

Lake Okeechobee Stage and Regulation Schedule

The April 16, 2012 Lake Okeechobee stage (reported by the USACE on April 17th) was 11.75 feet NGVD, 0.27 feet lower compared with 7-days ago. The April 9th stage was about 1.0 feet lower than it was a month ago and about 0.3 feet higher than a year ago. The current stage is about 2.2 feet lower than the historical average for this date. This week the Tributary Hydrologic Conditions is again in the "dry" classification (LORS-2008 classifications). The 14-day average Lake Okeechobee Net Inflow was -3855 cfs (dry) through April 15th. The April 14th Palmer Index was -3.97 (very dry). The April 16th Lake stage was about 0.8 feet below the bottom of the Baseflow Sub-band and about 0.45 feet above the Water Shortage Management Band. The LORS-2008 release guidance suggests no releases to the WCAs due to the dry tributary hydrologic conditions. The LORS-2008 release guidance provides no guidance regarding environmental water supply releases at S-79 and at S-80 for the current dry conditions. The SFWMD's Adaptive Protocol provides the necessary guidance for the appropriate release amount. Refer to the Caloosahatchee Estuary section below.

Water Supply Risk Indicators

The risk status for Lake Okeechobee Area is the same as last week. Two of the six LOSA water supply risk indicators remain in the "high risk" category: Palmer Index and the projected Lake stage. The one month CPC precipitation outlook and the Multi-Seasonal Net Inflow Forecast are in the "medium risk" category. The CPC precipitation outlook for the upcoming 3 months and the Seasonal Net Inflow Forecast are in the "low risk" category. The risk status for all WCAs (except WCA-2A) and Lower East Coast service areas remains within the "low risk" category. WCA-2A remains in the "high risk" category due to low water levels.

The South Florida Water Management District Governing Board voted on November 10 to rescind a series of water shortage orders that restricted landscape irrigation and placed mandatory reductions of agricultural and other large water uses. The action was taken in response to improved water resource conditions throughout the District's 16-county region following the fourth-wettest October on record. With long-term forecasts still calling for below-average rainfall during the 2011-2012 dry season, the Governing Board also declared a water shortage warning to encourage continued vigilance and voluntary water conservation.

Groundwater Levels

Groundwater levels decreased over most of the District this week, except in some areas of the Lower East Coast (LEC). The majority of the United States Geological Survey (USGS) real-time wells in the Kissimmee Basin within the District boundaries are in their lowest 30th to 10th percentile ranges for this time of year. Stages in the Upper East Coast (UEC) canals C-23, C-24, and C-25 dropped this week and are at 20.57, 18.86, and 18.67 ft NGVD, respectively, well above the 14 ft NGVD agricultural cutoff level. Groundwater levels in wells in the UEC have mostly dropped to their lowest 30th percentile ranges for this time of year. Biscayne aquifer levels increased and decreased in the LEC this week, depending on local rainfall. Most wells in the LEC are at median levels for their periods of record for this time of year. LEC wells in South Dade, Homestead, and Tequesta are below 2 ft NGVD (not unusual for this time of year), although the South Dade and Homestead wells actually rose a bit. Wells in Hallandale Beach and Dania Beach rose above 2 ft NGVD this week. For more detailed information, refer to the April 17, 2012 Water Supply Report, which is posted at www.sfwmd.gov.

Everglades WCAs

During the past week WCA water levels at the gages used for the regulation schedules slightly decreased. Rainfall amounts ranged from a low of 0.24 inches in ENP, to a high of 1.51 inches in WCA-3B. WCA-1 marsh stage is gradually decreasing and remains about 0.3 feet below its lower (Zone B) regulation schedule. WCA-2A marsh gage (2-17) has receded to the 11.0 ft-NGVD schedule, and the canal gage has receded to the floor elevation of 10.5 ft-NGVD. Water supply releases from WCA-2A are being preceded by inflows from Lake Okeechobee per regulations. WCA-3A stage has receded to about 0.3 feet below its regulation schedule's Zone E1. SFWMD scientists recommend retaining water in both WCA-2A and WCA-3A and allowing evapotranspiration to drive recession rates.

No water releases from WCA-3A to ENP per the Shark Slough Rainfall Plan were made last week. The Rainfall Formula amount this week is again 0 cfs; target flow is also 0 cfs since the average WCA-3A stage is below the transition zones of the regulation schedule, thus requiring no regulatory/supplemental flow component. All S-12 structures are closed. Water supply releases from WCA-3A to the SDCS are also being made via structures, S-333, S-334, S-151, S-337, and S-335.

St. Lucie Estuary

The estuary received no inflow via S-80 from Lake Okeechobee during the past week. Little to no inflow from C-23 and C-24 occurred. 7-day average salinity conditions in the SLE have increased again during the past week, and the 30-day moving average remains close to the upper limit of the preferred range at the US-1 Bridge and A1A Bridge. Conditions are classified as good for oysters for this time of year. It is recommended that the estuary should not receive inflows from the Lake or from C-44 basin runoff. To conserve water supplies it is recommended that the USACE continue their current operation to direct C-44 basin runoff westward to Lake Okeechobee, and not eastward through S-80 to tide.

Caloosahatchee Estuary

No releases have been made at S-79 since March 27th consistent with the Lake Okeechobee Adaptive Protocol (AP) recommendations. Releases were made to the Caloosahatchee Estuary via S-79, supplemented as needed with Lake O releases at S-77, during the 14.5 week period: December 16, 2011 through March 27, 2012. These releases were also consistent with the AP recommendations.

The 30-day moving average surface salinity is rising and estimated to be about 10.8 psu at Val I75 and 17.5 psu at Ft. Myers. Salinity conditions in the estuary are considered to be poor for tape grass (> 10 psu) in much of the estuary. Salinity conditions are fair for oysters (30-35 psu) considering their location in the estuary. The April 17th salinity forecast (assuming no releases)

indicates the 30-day moving average salinity at Val I-75 will increase during the next two weeks, and will continue to exceed 5 psu.

The following describes the release guidance per the Final Adaptive Protocols for Lake Okeechobee Operations (September 16, 2010). Each Tuesday the Coastal Ecosystem Section reviews the salinity conditions in the Caloosahatchee Estuary and forecasts the predicted salinity for 14 days into the future at Val I75. The criterion for when the estuary needs water depends on the two week predicted salinity at Val I75 being at least 5 psu. Therefore according to the salinity criterion, the estuary needs freshwater inflow at S-79.

The lower branch of the Adaptive Protocol release guidance flowchart applies since the stage is within the Beneficial Use Subband of the regulation schedule. Currently there is less than a 50% chance that the Lake stage will fall below elevation 11.0 ft, NGVD, before the end of the dry season, and the Tributary Hydrologic Condition is in the Dry classification. Correspondingly, the release guidance suggests “No S-77 release to the Caloosahatchee Estuary unless the Governing Board recommends otherwise”.